Mr. SMEATON CHASE exhibited, in the Library, a collection of photographs of Natives of Arizona.

Mr. M. BIDDER exhibited a collection of weapons, musical instruments and works of art from Siam.

Mr. N. W. THOMAS read a paper on "Boomerangs," illustrated by diagrams and specimens. The paper was discussed by Mr. NORMAN HARDY, Mr. KNOWLES, Mr. BALFOUR and the President.

The President announced that Prof. F. STARR had presented to the Institute a copy of his magnificent series of photographs of natives of Mexico, together with other publications.

December 5th, 1905.

Prof. W. GOWLAND, President, in the chair.

The election was announced of Mrs. EDWARD DAVIS, the Rev. H. J. DUKINFIELD-ASTLEY and Mr. P. A. TALBOT, as Ordinary Fellows of the Institute.

Mr. R. SHELFORD exhibited a Dyak Witch-Doctor's medicine chest, and explained the contents. The exhibit was discussed by Mr. BALFOUR, Mr. TABOR, Mr. THOMAS, Mr. LEWIS and the President.

Mr. D. RANALL-MACIVER read a paper on "Ruins in Rhodesia," illustrated by lantern slides. The paper was discussed by Mr. BALFOUR, the TREASURER and the President, and Mr. MACIVER replied.

December 19th, 1905.

Prof. W. GOWLAND, President, in the chair.

The election was announced of, Prof. K. VON DEN STEINEN, Prof. F. STARR and Prof. S. TSUBOI as Honorary Fellows, and of Mr. H. PETERS BONE and Mr. W. MITCHELL as Ordinary Fellows, of the Institute.

Mr. S. HAZZLEDINE WARREN read a paper on "The Origin of 'Eolithic' Flints from Natural Causes" (p. 337), illustrated by specimens and experiments. The paper was discussed by Mr. J. RUSSELL LARKBY, Mr. F. J. BENNETT, Dr. H. C. VISICK, Rev. H. G. O. KENDALL, Mr. M. A. C. HINTON, Mr. A. S. KENNARD, Rev. R. A. BULLEN, Mr. A. J. HOGG, Mr. REGINALD SMITH and the President, and Mr. WARREN replied.


Museum collections and special publications derive their value from the character of the field-work on which they are based. Nowhere, not even in the studio, does skill, training, the touch of the master, count for more. Measured by such a standard, Mr. Hartman's publication cannot fail to be classed as one of exceptional value. It is with such material as he has furnished that we may some day hope to raise American archaeology to the dignity of a real science.

In the growth or decay of art, industry, customs, religion, there must enter of necessity the time element. For this reason systems of relative chronology play a most important part in prehistoric Archaeology. A careful, intelligent, thorough study,
therefore, of the contents of graves is absolutely indispensable. *Archaeological Researches in Costa Rica* is by no means confined to a study of burial places. Yet it describes in full more than 400 graves.

Mr. Hartman’s field investigations were carried on during the years 1896–97. He began his researches on the East Coast with the great mound and walled enclosure at Mercedes. The mound is about 300 metres west of Rio Novillo; is truncated, with diameters at its base and top 30 and 20 metres respectively. The height, 65 metres, is the same as that of the surrounding wall. The purpose of the mound “seems to have been to serve as a platform, or temple, for the large statues, which were placed with faces

![Fig. 1.—Decorated Cap of Idol.](image)

towards the rising sun.” The author suggests that a wooden structure with thatched roof may have covered the mound while the “flat stone walls apparently only served for enclosures.” Four human figures and one of an alligator were found at the base of the large mound. One of the chief idols (Pl. XXXI, Fig. 1) wears a cap decorated with four (originally five) highly conventionalized animal figures in bas-relief (Fig. 1); and holds in its right hand a human head. These figures are all carved out of a hard basaltic lava.

A small mound at the end of the northern stone wall was also investigated; but neither that nor the large mound was completely explored. Near the top of the platform was found a human head of stone “which had been broken off from a trunk now
missing.” The vertex, or more correctly the cap worn on the head, is “engraved with a characteristic ornament, a kind of Swastika” (Fig. 2). Similar designs have been found by Holmes1 on shell gorgets from Mississippi and Tennessee.

In the thick forest near the enclosure there were graves that had been opened previously. They were all of an oval or rectangular shape. Only after careful search in the “thorny thicket beneath the gigantic forest trees” hitherto undisturbed graves were discovered. “They were arranged in small groups inside a common and almost circular platform, or enclosure, usually about half a metre in height.” Each enclosure was bounded by a margin of stones of various sizes. The groups, each containing from three to five graves are described. As regards construction, the graves at Mercedes all belong to one class. The walls are still in perfect condition except when interfered with by the roots of trees. Partially chipped limestone slabs form roof and floor.

Only one grave contained traces of bone. In most of them pottery was found. “The majority of these vessels show signs of wear, and are covered with soot, proving that they were employed as cooking utensils.” Other objects found were charred corn and corn cobs, two stone cells and a bead of blue glass. This latter being of European manufacture, gives a clue to the age of the burials (not earlier than the sixteenth century). In these regions it has been the custom to bury the dead inside the houses, so that in all probability the low platform enclosures, containing the graves described, were primarily foundations for the huts of the living.

A curious discovery was made about 100 m. from the temple mound, where the “rains had swept away the humus and uncovered a small portion of the roof of a stone chamber containing a lot of pottery, but there was no proof that it had been used as a grave.” The construction of the chamber, which differed in several respects from the graves, and the amount of pottery contained therein, lead the author to look upon it as a cache.

Not the least interesting find made in the neighbourhood of Mercedes was a stone-cutter's workshop. It was discovered by chance while opening forest paths in search of graves. “Over a surface of some 20 square metres, and to a depth of about one metre, the soil was intermingled with chips and partly-finished idols.”

1 Second Annual Report, Bur. of Ethnol., 282, 284.

2 It was for his work on the East Coast that the Loubat prize was awarded to Mr. Hartman by the Swedish Academy of Literature, History and Antiquities.
Rains making work on the Atlantic lowlands practically impossible, the highland valleys of the interior were chosen as a field of exploration, but not before investigating a number of sites known to the occupants of the neighbouring haciendas. These included a stone enclosure at Williamsburg, and graves at Siquirres, Sta. Rosa, Guasimo and Jimenez.

As to work in the highlands, the valley of Cartago was selected as the most promising. Near Santiago, twelve stone cists and as many grave pits were found in a flat elliptical mound, the cists being arranged in the eastern half of the mound and the pits in the western half. The latter differ in construction from the cists, being bowl-shaped and formed of cobble stones. The cists were all quadrangular with "roof, sides and bottom composed of thin slabs of limestone." In both forms of grave a number of objects, chiefly pottery, were found. The most important piece (Pl. XXXI, Fig. 2) is a ewer-shaped vase with "handle representing a conventionalized animal" (probably tapir).

There were no traces of bones. The graves were not long enough to admit of adult burial at full length. It is presumed that these graves were used as repositories for the bones only after removal of the soft parts by decomposition or other means, a presumption which is strengthened by the fact that "quite small stone cists were found in several places to contain remnants of skeletons, which had been apparently deposited in them in bundles."

The vessels in the Santiago stone cists were as a rule well preserved; few bore marks of use. In fact, only a few are large enough to admit of practical use. They are probably symbols of larger vessels. Later researches on the Pacific coast brought to light a quantity of diminutive mortuary vessels.

At Chiricot, a suburb of Cartago, the ancient capital of Costa Rica, was found "a really extensive ancient burial ground that had been left almost undisturbed." Only the superficial part of the enclosing stone circle had been removed by cultivators of the soil. Here 205 graves were "crowded together in a small oblong space," 20 metres long by 15 in breadth. They were arranged in three layers, 111 in the upper, 59 in the middle and 35 in the lower. The cists of the lower, or oldest layer, were in three groups; those of the middle layer, in four groups; while the cists of the top layer were about evenly distributed over the whole burial ground.

The Chiricot cists were in shape like those at Santiago, and many were diminutive in size. In most of the cists that were of sufficient length, the "skeletons lay stretched out on their backs at full length." In the small cists, the bones, when present, were in heaps or bundles, and often did not represent the entire skeleton. The skulls, were dolichocephalic.

The mortuary vessels were not always in the cists. Many were found just outside usually at the head of the grave, and, in a few cases, on the roof. Of the relics deposited inside the cists, the majority were in the vicinity of the head and trunk; a few were near the feet.

About 50 metres east of the first burying ground, a second, somewhat smaller, was found. It had been demolished in part. The cists that remained were similar to those of the first field, and arranged in two or three layers. In the small cists were "fragments of skeletons deposited in bundles, usually one in each cist, but in some, two or three."

At Los Limones, six kilometres from Cartago, two elliptical mounds were found. They were not more than a metre high at the centre, and the stone margins, if they ever existed, had disappeared.
There were 26 cists in the first mound and 39 in the second. The graves were of the same construction as those at Chiricó, and were, for the most part, without artifacts. Stone objects were especially rare.

Orosí, the next site investigated, is in the mountains, some 10 kilometres south-east of Cartago. It is an ancient dwelling-place that was selected because of a desirable water supply and adjacent stone quarries. The general ground-plan shows a number of circles and semicircles, bordered by stones and varying in size from 8 or 10 to 20 metres in diameter. In the midst of these is a rectangular space 27 metres long by 17 broad, surrounded by low embankments—probably an open courtyard.

Five of the stone enclosures containing graves were excavated by Mr. Hartman. In a cist of Group I, he found an obsidian flake—"the only object of obsidian met with during all the excavations in the highlands." Obsidian is also rare on the Pacific side, the author finding "not even a single chip of obsidian" during his excavations there.

The most prominent stone circle at Orosí is the one marked V on the plan. Of the large number of stone cists, sixty-five were excavated, which proved it to be the richest in relics of any of the highland mounds. The graves were distributed in two layers, each layer containing three groups.

Mound V, like all the other stone enclosures at Orosí, was primarily a domicile; but it differed from most of the other hut-rings in having served for a time as a burying ground. In filling up the cists, the ancient inhabitants had carelessly "thrown in any stones and pebbles contained in the soil, and thus many chips and partially worked stone implements found their way into the cists without having been purposely deposited there."

A number of sporadic finds were made in the soil that covered the graves, the most important being "a defective seal, provided with a small handle."

About a thousand stone objects were collected from a neighbouring coffee plantation, where a number of partially demolished stone circles were still visible. In one of the cists opened, a golden bell was found; in another, two small tubes of rolled copper. Here stood also an upright stone slab with petroglyphs.

Mr. Hartman supplemented his own rich finds by the purchase of private collections from the environs of Cartago, the largest of these coming from Las Huacas, Navarro, Tarros and Agua Caliente.

The volume represents the results of a year's scientific investigations carried on first along the Atlantic lowlands and later among the highlands of the interior. The culture is everywhere "that of a Stone Age people of high standing, possessed of ornaments of gold and copper, but with no tools or weapons of metal at all." No date can be fixed for the beginning of this culture; but that it continued to exist after the arrival of the Spaniards is attested by the presence of glass beads in some of the graves.

Of native artifacts, only two implements of bone were found. The remainder were of clay, stone or metal (gold and copper ornaments only). The great majority of the clay vessels were evidently intended for mortuary purposes alone. They testify to a "highly elaborated technique and cultivated taste," but do not include any types that are equal to the best there is in Chiriquí ceramics.

Two types of ornamentation are particularly noticeable: (1) incised geometric designs as seen on a clay vessel from Chiricó (Fig. 3 and Pl. XXXII, Fig. 1); and (2) punctate knobs resembling raised tattoo marks or scarifications, as illustrated by a large tripod bowl, also from Chiricó (Pl. XXXII, Figs. 2 and 3). The author observes "that certain classes of ornament seem to have been allotted to certain classes of vessels."
The Ancient Guêtares of Costa Rica seem to have excelled in the manufacture of large, multicoloured bowls, a number of which have been reproduced in colour, thus adding attractiveness to what even without them would be a superb series of plates.

The large quarto volume contains 488 text illustrations in addition to the 87 plates. It is published at the sole expense of Mr. Åke Sjögren, who has also given the collection, on a part of which the work is based, to the Royal Ethnographical Museum in Stockholm. Ever since the time of Thomsen and of Worsaae, the world has been accustomed to look to Scandinavia for light and leading in the realm of prehistoric archaeology. To Mr. Hartman belongs the credit of transplanting to American soil the seeds which have borne such excellent harvests in Denmark, Norway and Sweden. May he have abundant opportunity to do field-work of the same high grade for the Carnegie Museum as that which he did, through the munificence of Mr. Sjögren, for the Swedish Museum.

George Grant MacCurdy.

Yale University Museum,
New Haven, Conn.
FIG. 1.—IDOL FROM MERCEDES.

FIG. 2.—EWER-SHAPED VASE.

ARCHAEOLOGICAL RESEARCHES IN COSTA RICA.
FIG. 2.—Tripod Bowl from Chiricú.

FIG. 3.—Enlarged View of Part of Bowl.

Archaeological Researches in Costa Rica.